

Exercise 1 Multiply the polynomial and simplify.

$$f(x) = (x^3 - \frac{3}{4}x)(\sqrt{2} - \frac{1}{7}x^2)$$

$$f(x) = \boxed{-\frac{1}{7}}x^5 + \boxed{0}x^4 + \boxed{\sqrt{2} - \frac{3}{28}}x^3 + \boxed{0}x^2 + \boxed{-\frac{3\sqrt{2}}{4}}x + \boxed{0}$$
